SIEMENS

PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Inventor:	G. Benning et al.	Group Art Unit:	2617
Serial No.:	10/767,676	Examiner:	C. Brandt
Filed:	January 29, 2004		

Title **ARRANGEMENT FOR THE WIRELESS CONNECTION OF TERMINALS TO A COMMUNICATION SYSTEM**

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

SUPPLEMENTAL APPELANTS BRIEF

This Supplemental Appeal Brief is in response to a Notice of Non-Compliant Appeal Brief mailed January 7, 2009 and relates to an appeal from the rejection of claims 1-13 and 18-24 in the Office Action mailed August 6, 2008.

I. Real Party in Interest

The real party in interest is Siemens Aktiengesellschaft of Munich, Germany, the assignee of record.

II. Related Appeals and Interferences

There are no known related appeals or interferences.

III. Status of Claims

Claims 14-17 have been canceled. Claims 1-13 and 18-24 are rejected. No claims have been allowed. Claims 1-13 and 18-24 are being appealed.

IV. Status of Amendments

No amendment has been filed subsequent to the rejection.

V. Summary of Claimed Subject Matter

Aspects of the invention are related to a data processing system with services for providing functionalities.

A. Claim 1

Referring to the Figure, independent claim 1 recites an arrangement for a wireless connection of terminal devices (HS1, HS2, PDA, HS3) to a communication system, comprising:

a data packet network (LAN) for the transmission of data packets using network addresses valid within the network;

a transition device (GW1, GW2) coupled to the data packet network LAN, the transition device comprises a short-range radio module (BT1, BT2) and a coupling table (KTAB), the short-range radio module locates a terminal device (HS1, HS2, PDA, HS3) within range of the module (BT1, Bt2), the coupling table (KTAB) includes an address (RN1, RN2, MA, RN3) of the located terminal device (HS1, HS2, PDA, HS3);

a server (S) coupled to the data packet network (LAN) controls connections to the terminal device (HS1, HS2, PDA, HS3) and controls roaming for the terminal device (HS1, HS2, PDA, HS3), the server (S) includes an allocation table (ZTAB) that comprises for each transition device (GW1, GW2): an aligned copy of the coupling table (KTAB) and a network address (IP1, IP2) for the respective transition device (GW1, GW2) such that the address is associated with the copied table; and

a packet-based alignment protocol (AP) for the dynamic alignment of the allocation table (ZTAB) with the coupling table (KTAB),

wherein via the alignment protocol (AP) a content of the coupling table (KTAB) is transmitted to the server (S) to dynamically update the allocation table (ZTAB) thereby aligning the copy of the coupling table (KTAB) in the allocation table (ZTAB).

B. Claim 19

Referring to the Figure, independent claim 19 recites a method for a wireless connection of terminal devices (HS1, HS2, PDA, HS3) to a communication system, comprising:

detecting a terminal (HS1, HS2, PDA, HS3) located within range of a short-range radio module (BT1, BT2) integrated within a gateway (GW1, GW2);

storing a address (RN1, RN2, MA, RN3) of the detected terminal (HS1, HS2, PDA, HS3) in a coupling table (KTAB) of the gateway (GW1, GW2);

transmitting a data content of the coupling table (KTAB) from the gateway (GW1, GW2) to a server (S); and

updating an allocation table (ZTAB) in the server (S) to associate the address of the gateway (GW1, GW2) to the transmitted data content,

wherein the transmission uses an alignment protocol (AP) for the purpose of aligning the coupling table (KTAB) and the allocation table (ZTAB), and

wherein the allocation (ZTAB) table is used for roaming, handover, or roaming and handover of the terminal device (HS1, HS2, PDA, HS3).

VI. Grounds for Rejection to be Reviewed

Claims 1-8, 12, 13, and 18-24 are rejected under 35 U.S.C. § 103(a) as being obvious over Lindgren et al. (USPN 6,411,6342) in view of Singhal et al. (US PgPub 2003/0041175) and further in view of McKeeth (USPN 7,188,175),

claim 9 is rejected under 35 U.S.C. § 103(a) as being obvious over Lindgren in view of Singhal, in view of and McKeeth and further in view of Rautiola et al (USPN 6,853,851), and

claim 10 and 11 are rejected under 35 U.S.C. § 103(a) as being obvious over Lindgren in view of Singhal, in view of and McKeeth and further in view of Bishop et al (USPN 6,850,512).

VII. Appellants' Argument

A. Applicants' Invention

Terminal devices (HS1, HS2, PDA, HS3) may roam in a data packet network (LAN). A terminal device (HS1, HS2, PDA, HS3) is detected by a short-range radio module (BT1, BT2) of a transition device (GW1, GW2). An address (RN1, RN2, MA, RN3) of the located terminal device is stored in a coupling table (KTAB). An aligned copy of the coupling table (KTAB) is copied to a server (S) and stored in an allocation table (ZTAB) along with the respective address (IP1, IP2) of the transition device (GW1, GW2). The alignment provides the data of the allocation to be update to be consistent with the coupling table, thus allowing roaming of the devices. Using the allocation table, the server can forward incoming connection requirements for the terminal device.

B. Lindgren

Lindgren teaches how to connect a wireless office environment with a public cellular telephone network via a network hub. Mobile stations 41 connect to wireless offices 40 via a wireless interface (see e.g., FIG 2). In contrast, the connections between the wireless offices 40 and the network hub 38 as well as connections between the network hub 38 and the public access cellular network 12 are via a wire interface (see e.g., FIG 2). The communication between the wireless offices 40 and the network hub is based on a TCP/IP protocol (see e.g., FIG 2, col. 4 lines 19-22) and the communication between the network hub 38 to public access cellular network 12 is based on IS-41 messages 50 using a SS7 protocol (see e.g., FIG 2 and 3A, col. 4. lines 11-13) and the SCCP layer 52 and the MTP layer 54 end-to-end routing.

C. Singhal

Sinhal teaches a system and a method for enabling existing short rage wireless access points to participate within a coordinated networked environment (Abstract)

D. McKeeth

Communication in a client-server computer network 120,150 between a first client 124 and a second client 156 can be established by the first client 124 using the IP address of the

second client 156 (col. 4 lines 21-24). However, this is problematic when IP addresses are dynamically assigned to the clients (col. 4 lines 24-29). To overcome this, McKeeth teaches a communication in a network such that a first client 224 can contact a second client 256 by using an identifier other than the network address (i.e. IP address) of the 256 second client (Abstract).

E. The rejection of claims 1-8, 12, 13, and 18-24 under 35 U.S.C. § 103(a) as being obvious over Lindgren et al. (USPN 6,411,6342) in view of Singhal et al. (US PgPub 2003/0041175) and further in view of McKeeth (USPN 7,188,175)

a) Independent claims 1 and 19

Applicants' claim 1 recites:

> a transition device coupled to the data packet network, the transition device comprises a short-range radio module and a coupling table, the short-range radio module locates a terminal device within range of the module, the coupling table includes an address of the located terminal device;

The Examiner indicates that Lindgren teaches this limitation stating "column 4 lines 42-45, read as the network hub further includes a translation table for storing the mobile identification numbers (MIN) of mobile stations being serviced by a wireless office interconnected with the network hub". Thus, the Examiner apparently considers:

- the network hub 38 as Applicants' transition device,
- the translation table 70 as Applicants' coupling table, and
- the mobile identification numbers as Applicants' address of the located terminal device.

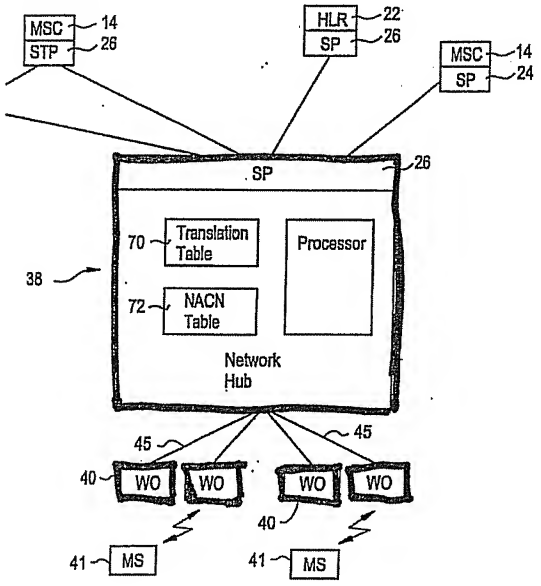
Lindgren, however, does not teach or suggest that the transition device comprises a short-range radio module. The Examiner states that "Singhal teaches that the transition device comprises a short-range radio module and a coupling table (paragraph 28, read as short range access points that use a routing coordinator that maintains a plurality of connection table records and wherein a plurality of Home Agent Masqueraders (HAMs) and Foreign Agent Masqueraders (FAMs) communicate with the routing coordinator). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have incorporated the teachings of Singhal into the invention of Lindgren in order to insure that the client data connections are preserved as the client travels throughout the short-range wireless network environment".

The incorporation of Somghal's short-range radio module into Lindgren's network hub 38 does not teach or suggest Applicants' limitation that *the short-range radio module locates a*

terminal device within range of the module. In contrast, Lindgren teaches that the network hub 38 communicates with the wireless office 40, which is an intermediate device, and not with a terminal device (see e.g., FIG 2 below). As supported by Applicants' specification, plain meaning, as well as understood by those skilled in the art, a terminal device is the end device. MPEP 2111.01 recites:

> This means that the words of the claim must be given their plain meaning unless **>the plain meaning is inconsistent with< the specification. ...[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.

FIG. 2



Furthermore, Applicants respectfully submit that there is no motivation to incorporate a short-range radio module into network hub 38 in order to communicate with the stationary wireless office. The modification to incorporate the short-range radio module would **unsatisfactorily** limit the physical distance between the wireless office 40 and the network hub 38. The incorporation of the short-range radio module it would difficult to impossible to produce the coverage needed for a cellular telephone network since each of the wireless offices 40 would need to be located/clustered very close to the network hub 38. One skilled in the art would

recognize that a short-range radio module requires a close proximity which is unsuitable in Lindgren's cellular telephone network. MPEP 2143 (section V) recites:

> If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

If however, the Examiner intended for the incorporated short-range radio module to directly communicate between the network hub 38 and the mobile station 41, Applicants respectfully submit that communication with the wireless office 40 would be bypassed. Thus, the network hub 38 would not have received the IP address of the wireless office 40 in order to incorporate the IP address into the translation table and therefore not enabling calls from the public network to be directed to the wireless office 40 serving the mobile station 41 (see e.g., para. 2, col. 30-44).Therefore, by bypassing the wireless office, the proposed modification would change the principle of the invention. MPEP 2143 (section VI) recites:

> If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.

Furthermore, a direct communication between the network hub 38 and the terminal device 41 via a short-range radio would unsatisfactorily limit the distance a terminal device 41 could be from the network hub 38 and thus be unsuitable for a cellular telephone network (MPEP 2143 (section V)).

Applicants' claim 1 further recites:

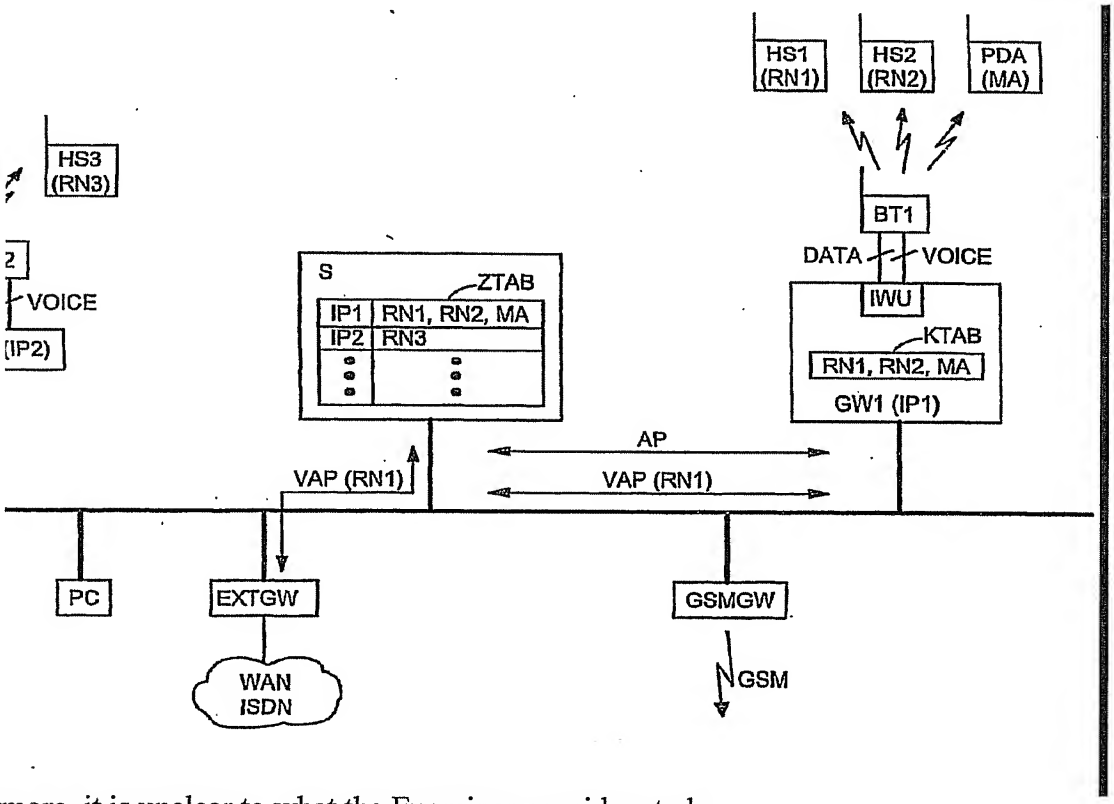
> a server coupled to the data packet network controls connections to the terminal device and controls roaming for the terminal device, the server includes an allocation table that comprises for each transition device: an aligned copy of the coupling table and a network address for the respective transition device such that the address is associated with the copied table; and

The Examiner indicates that Lindgren teaches this limitation stating "column 4 lines 38-41, 47-52, read as the network, hub includes an IP address for communications using the TCP/IP address for communications using the TCP/IP protocol and a signal point code (address) for

communication to the SS7 protocol. There is also a translation table that enables the location of mobile stations according to the IP address of its serving wireless office and a network table addressing table, includes a listing of all nodes and signaling point codes (addresses) within the public access network). Applicants respectfully submit that the pertinence of this reference is not apparent and has not clearly been explained. MPEP 706 recites:

> The pertinence of each reference, if not apparent, *must be clearly explained* and each rejected claim specified.

First, it is unclear to what the Examiner considers as the server. Since, the IP address, the signal point code, the transition table 70, and the network table 72 are all included in the network hub 38 it appears that the Examiner considers the network hub 38 to be the server as well as the transition device.



Furthermore, it is unclear to what the Examiner considers to be

- the allocation table (ZTAB)
- the aligned copy of the coupling table (KTAB) and
- the network address (IP1, IPs) for the respective transition device (GW1, GW2) such that the address is associated with the copied table

Applicants allocation table includes the aligned copy of the coupling table. Consistent with the specification, an aligned copy is a copy that is updated to keep the data consistent between the allocation table and the coupling table (see e.g., page 10, lines 10-12). Furthermore, the network address of the respective transition device for which the aligned copy is associated is stored in the allocation table. MPEP 2111 recites:

> During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." . . . The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach.

Since the Examiner has previously indicated that the translation table 70 is considered as Applicants' coupling table, the allocation table must include

1. an aligned copy of the translation table 70 and
2. a network address for the network hub 38 such that the address is associated with the copied table in order to read on Applicants limitation.

The NACN table 72 includes a listing of all nodes and signaling point codes within the cellular network (see e.g., col. 4 lines 49-52). Additionally the NACN table 72 include the MIN of the mobile station 41 and their corresponding Home Location Register (HLR) 22 (see e.g., col. 4 lines 52-54). However, the NACN table 72 does not include the network address for the network hub 32 such that the address is associated with the copied table. The HLR 22 cannot reasonably be considered as the address of the network hub. Additionally, the IP address is not associated with the copied table but is used to communicate to the wireless office 40 using TCP/IP protocol. Likewise, the signal point code is not associated with the copied table but is used to communicate via the SS7 protocol. Furthermore, the translation table 70 includes the MIN and associated the IP address of the wireless office 40. In order for the table to be aligned the NACN table would also need to include the associated IP address. For at least the reasons above, Applicants respectfully submit that the NACN table 72 is not an aligned copy of the translation table 70.

In view of the above, it is respectfully submitted that independent claim 1 is patentable. Independent claim 19, which similarly recite the similar limitations is also patentable.

Furthermore, claims 2-13, 18, which depend on claim 1, and claims 20-24, which depend on claim 19 are also patentable at least based on their dependency as well as their own merits.

F. The rejection of claim 9 under 35 U.S.C. § 103(a) as being obvious over Lindgren in view of Singhal, in view of and McKeeth and further in view of Rautiola et al (USPN 6,853,851)

In view of the arguments above for claim 1, it is respectfully submitted that dependent claim 9 is patentable at least based on its dependency to claim 1 as well as its own merits.

G. The rejection of claims 10 and 11 under 35 U.S.C. § 103(a) as being obvious over Lindgren in view of Singhal, in view of and McKeeth and further in view of Bishop et al (USPN 6,850,512)

In view of the arguments above for claim 1, it is respectfully submitted that dependent claims 10 and 11 are patentable at least based on their dependency to claim 1 as well as their own merits.

VIII. Conclusion

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. The honorable Board is therefore respectfully requested to reverse the rejection of the Examiner and to remand the application to the Examiner with instructions to allow the pending claims. Please grant any extensions of time required to enter this paper. Please charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Acct. No. 19-2179.

Respectfully submitted,

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IX. Claims Appendix

i1. An arrangement for a wireless connection of terminal devices to a communication system, comprising:

a data packet network for the transmission of data packets using network addresses valid within the network;

a transition device coupled to the data packet network, the transition device comprises a short-range radio module and a coupling table, the short-range radio module locates a terminal device within range of the module, the coupling table includes an address of the located terminal device;

a server coupled to the data packet network controls connections to the terminal device and controls roaming for the terminal device, the server includes an allocation table that comprises for each transition device: an aligned copy of the coupling table and a network address for the respective transition device such that the address is associated with the copied table; and

a packet-based alignment protocol for the dynamic alignment of the allocation table with the coupling table,

wherein via the alignment protocol a content of the coupling table is transmitted to the server to dynamically update the allocation table thereby aligning the copy of the coupling table in the allocation table.

2. An arrangement in accordance with Claim 1, wherein the data packet network is realized by a network based on an Internet protocol.

3. An arrangement in accordance with claim 1, wherein the transition device further comprsises a translator for translation between a network protocol used in the data packet network and a protocol specific to the short-range radio module.

4. An arrangement in accordance with Claim 3, wherein the translator further comprises a detection unit for detecting, via the network protocol used, which terminal device-specific application a connection to a terminal device is allocated to, in order to be able to perform an application-specific protocol conversion accordingly.

5. An arrangement in accordance with Claim 3,wherein the protocol specific to a radio module having a specific voice interface and a specific data interface

6. An arrangement in accordance with claim 1, wherein the short-range radio module is based on an IEEE 802.15.1 standard.

7. An arrangement in accordance with claims 1, wherein the allocation table is used for determining a momentary location of a particular terminal

8. An arrangement in accordance with claim 1, wherein a gateway device is coupled to the data packet network for coupling the data packet network to a forwarding communication network.

9. An arrangement in accordance with claim 1, further comprising a headset as a terminal device for voice connections.

10. An arrangement in accordance with claim 1, further comprising a PDA (Personal Digital Assistant) as a terminal device for data connections.

11. An arrangement in accordance with claim 1, further comprising a PDA (Personal Digital Assistant) as a terminal device for entering destination addresses for outgoing connections and for initiating those connections.

12. An arrangement in accordance with claim 2, wherein the transition device comprises a translator for translation between a network protocol used in the data packet network and a protocol specific to a radio module.

13. An arrangement in accordance with Claim 4, wherein the protocol specific to a radio module having a specific voice interface and a specific data interface.

14.-17. (canceled)

18. An arrangement in accordance with claim 1, wherein the address of the detected terminal is a telephone number.

19. A method for a wireless connection of terminal devices to a communication system, comprising:

detecting a terminal located within range of a short-range radio module integrated within a gateway;

storing a address of the detected terminal in a coupling table of the gateway;

transmitting a data content of the coupling table from the gateway to a server; and

updating an allocation table in the server to associate the address of the gateway to the transmitted data content,

wherein the transmission uses an alignment protocol for the purpose of aligning the coupling table and the allocation table, and

wherein the allocation table is used for roaming, handover, or roaming and handover of the terminal device.

20. The method in accordance with Claim 19, wherein the address of the detected terminal is a telephone number.

21. The method in accordance with Claim 19, wherein the address of the detected terminal is an e-mail address.

22. The method in accordance with Claim 19, wherein the address of the detected terminal is an universal resource locator.

23. The method in accordance with Claim 19, wherein the address of the detected terminal is an Internet Protocol address.

24. The method in accordance with Claim 19, wherein the address of the gateway is an Internet Protocol address.

X. Evidence Appendix

None

XI. Related Procedings Appendix

None